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Examination of the Sire for Fertility*

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ONDERSTEPOORT

Stock owners in this country are showing an ever-increasing interest in the fertility of their animals. This subject will, in future, demand the attention of our veterinarians to a greater degree than heretofore. The fertility of the male animal has received but scant attention compared with that of the female, whereas detailed examinations of semen forwarded to this Institution during the past few years have revealed that the sire is more often than is generally appreciated the cause of the low birth-rate. Unless the source of the trouble is obvious, the examination of a herd for infertility should therefore always include the males as well as the females.

The object of this article is to assist veterinarians in the examination of the sire as a possible cause of the failure of females to conceive. Unfortunately the females are usually suspected until a high percentage of them have failed to become pregnant. Only then may the attention of the owner be drawn to the male, with the result that much valuable time may have elapsed and serious financial loss have been incurred.

It should be emphasised that there are degrees of fertility or infertility in the male ranging from high-grade fertility to complete sterility. The examination of semen alone, except in extreme cases, is not sufficient to assess the breeding potentialities of the sire, in fact it may give an entirely false impression. This is clearly shown by Lagerlöf (1936) who distinguishes three main forms of sterility in bulls, *viz.*:—

1. Sexual desire non-existent.
2. Inability to copulate.
3. Inability to fertilise.

1. Lack of sexual desire is not uncommon, and in young males it may be due to ignorance. Careful handling and guidance in mating may overcome the difficulty, or stimulating treatment may be necessary. Pain when mounting the female or over-exertion are also responsible. The latter cause has been observed by the author where the bull was allowed to run with a herd in which the cows repeatedly returned for service. With a number of cows seeking the bull at the same time, he was not allowed to serve any one cow properly. This continual interference so exhausted the bull that he gradually appeared to lose all sexual desire. Some bulls show a temporary loss of mating desire when removed from their accustomed surroundings, as may occur with a change of owners. It is therefore necessary to bear in mind that psychic influences may play a part.

2. Regarding inability to copulate—here sexual desire is normal and the bull mounts the cow, but is unable to accomplish the act of coitus. Careful observation and examination are necessary to establish the cause, which may be one of many. Lagerlöf (1936) mentions the following as being amongst the most important causes: Weakness due to over-exertion or enervating feed; lack of exercise combined with food that is too rich or too bulky, with the result that the bull becomes too fat, heavy, or pot-bellied, which acts as a mechanical obstruction and may cause misdirection of the penis; morbid changes in the skeleton, joints, muscles, hooves or peritoneum (traumatic peritonitis, pericarditis, etc.) may cause pain in mounting; inflammatory changes in the prepuce and penis may prevent coitus; inability in young bulls to protrude the penis far enough for coitus to take place may be caused by arthritis in the iliosacral joint, contraction of the retractor penis muscle, or imperfect erection may be due to nervous disturbances. Dysfunction of the organs of internal secretion may probably also play a part.

Semen for examination from the above cases could be obtained from the bull by massage of the ampullae of the vasa deferentia, as will be described later. If such samples were examined without a history of the case and a record of the results of an investigation by the veterinarian attending the case, it would obviously lead to a false conclusion.

3. Inability to fertilise. It is in this form of sterility that examination of the semen and spermatozoa is of great value. Here the male serves normally, but pregnancy does not result, and it is in such cases that suspicion is not directed to the male until a great deal of harm has been done.

For fertilisation to take place a sufficient number of functionally normal spermatozoa must be ejaculated. This means that the total volume of an ejaculate and the density of the spermatozoa must be sufficient, and the percentage of abnormal forms not too high.

The following table by Lambert and McKenzie (1940) summarises some quantitative characteristics of semen from various animals:—

Animal	Volume per Ejaculate: Approx. range	Volume per Ejaculate: Most common volume	Sperm concentration per c.mm.: Range	Sperm concentration per c.mm.: Most common	pH	Vol. of diluted or undiluted semen recommended per artificial insemination
Stallion ..	40–320	75–150	30,000–800,000	60,000	7·0–7·8	10·0–30·0
Bull ..	0·5–14·0	3·0–4·0	300,000–2,000,000	800,000	6·5–7·5	0·5–1·5
Ram ..	0·5–2·0	0·8	500,000–6,000,000	1,000,000	6·2–7·8	0·1–0·2
Boar ..	125–500	200·0	25,000–1,000,000	100,000	6·8–7·2	50·0–100·0
Dog ..	2–19	7·0	1,000,000–9,000,000			
Buck (rabbit)	0·4–6·5	0·7	100,000–2,000,000	700,000	6·8–7·5	0·25–1·0
Turkey Tom	0·1–0·7	0·3				0·05
Cock ..	0·1–1·5	0·6	50,000–6,000,000		7·3–7·8	0·1

COLLECTION OF SEMEN

Under our field conditions semen for microscopical examination can be collected in the following ways:—

The Stallion: From the floor of the vagina or from the uterus of the mare immediately after the stallion has dismounted. Collection can be made with the aid of a speculum and the semen withdrawn by means of a syringe with a nozzle attached, or the hand can be inserted into the vagina and the nozzle guided into position. Semen can sometimes also be collected in the palm by cupping the hand and pressing down on the floor of the vagina.

The Bull: Semen can easily be collected from the vagina of the cow by means of a long-handled spoon, or with the hand itself. The semen will be mixed with the vaginal mucus of the cow. Samples can also be obtained by massage of the ampullae of the vasa deferentia as described by Miller and Evans (1934).

Briefly, their method is as follows: Secure the bull so that he cannot move about, *e.g.*, in a crush or stall; wash the prepuce with soap and warm water, lubricate the hand (or the gloved hand) and insert it seven to ten inches into the rectum. Locate the sacculated seminal vesicles and massage them by stroking backwards. A turbid fluid should be obtained with epithelial cells and perhaps a few spermatozoa. Next locate the ampullae between and below the seminal vesicles and massage them in the same way. Massaging for about two minutes is usually sufficient. In most cases a turbid fluid containing the spermatozoa will be obtained.

The Ram: Semen can be collected from the vagina of the ewe by means of a syringe and nozzle with the aid of a small speculum or, if a small quantity only is required, by catching up a few drops from the end of the sheath as the ram dismounts. An ordinary test tube of $\frac{3}{4}$ inch diameter with the closed end cut off and smoothed in a flame will serve for a speculum.

The Dog: It is in most cases possible to collect semen easily by manual manipulation of the penis.

Semen that is required for examination elsewhere should be despatched in clean, sterile bottles. The sample should be kept out of the sun and if it cannot be sent off immediately should be packed in a refrigerator or other cool place pending despatch.

MOTILITY

As the spermatozoa will probably no longer be motile on arrival

* Reproduced from the *Journal of the South African Veterinary Medical Association*, December, 1943 (**14**. 142-147).

at their destination, the semen should, whenever possible, be examined for motility immediately after collection or within 30 minutes. High-grade motility is characterised by progressive forward movement of the spermatozoa as distinct from oscillatory or rotary and feeble movement. The motility can be described as very good (90 to 100 per cent. strong progressive movement), good (75 to 90 per cent.), fairly good (60 to 75 per cent.) fair (45 to 60 per cent.), and below as poor and non-motile.

Semen Smears

The greatest care should be exercised in making semen smears because mechanical separation of the heads from the bodies, and laceration of the different parts of the cell are easily produced by careless and rough preparation. The slides must be free from dust particles, etc. The author has tried many different methods of making semen smears and the most satisfactory has been as follows:—

Grasp the slide at one end between the thumb and forefinger of the left hand, place a drop of semen on it and lay a second slide, at right angles to the first, on the drop. Allow the drop to spread between the slides and immediately draw the top slide flat along the bottom one, smoothly and without any added pressure. Dry by waving in the air. The top slide is usually the more satisfactory one to use, except when the semen is very thin. In that case the bottom one is used.

When the semen has been taken from the vagina it is usually mixed with tenacious mucus which may make the preparation of smears, as above described, rather difficult. With such material satisfactory smears can be made by allowing the gelatinous mass to hang down from the container and then drawing the glass slide gently along it.

Staining

Unstained smears can be examined under high dry magnification for approximate density and gross abnormalities, but for detailed examination of morphological abnormalities staining is necessary. Various staining methods have been tried, but that described by Williams and Savage (1925) has given the best results. The important types of abnormal spermatozoa found are the following: Tailless, broken at neck, coiled and bent tails, enlarged and truncated middle pieces, pyriform heads, narrow heads, double heads, megalosperm and microsperm, double middle pieces, filiform middle pieces, and middle piece beads.

Considerable difference of opinion exists as to the significance of these different aberrant forms. McKenzie and Phillips (1934) consider that semen from rams that shows more than 140 abnormal forms per 1,000 is indicative of reduced fertility, provided the sample was not taken after a prolonged rest period. From their studies in fertility in sheep Gunn, Sanders and Granger (1942) do not agree "that any given percentage of morphological abnormalities is indicative of sterility, but we consider that the percentage of morphological abnormalities compatible with fertility varies with the cause of the derangement of spermatogenesis."

Lagerlöf (1936) has found that in a bull of good fertility the number of pathological spermatozoa does not exceed 17 to 18 per cent. Anderson (1939-40) gives the percentage of abnormal sperms in fertile bulls, in bulls of reduced fertility and in sterile bulls, as 8·1, 13·1, and 17·6 respectively. Herman and Swanson (1941) consider that the greatest number of abnormal spermatozoa compatible with good and fair fertility is about 30 per cent. This wide difference of opinion is probably due to the absence of a standard of what constitutes an abnormal cell.

Abnormal spermatozoa in semen indicate a disturbance in spermatogenesis. This disturbance may affect a part of, or the whole testicle. The testicle is very sensitive to internal and external influences and degeneration of testicular epithelium may take place within a period of a few days only, whereas regeneration, when it does occur, takes months. Among the more important causes of testicular degeneration are infections, thermic action, toxic agencies and hormonal disturbances.

A prognosis can rarely be given from the examination of a single semen sample because an indifferent sperm picture may be the result of a temporary disturbance which operated at the time the sample was taken. Although the total abnormal count, irrespective of the types of abnormalities present at any one examination, might be indicative of the fertility of the animal at that time, the particular abnormal type, if in a significant proportion, gives a more accurate picture of what can be expected in the future. It is, therefore, most important that the semen of a particular animal be examined at intervals during two or three months in order to observe whether the picture remains the same, has improved, or become worse. The persistence of an appreciable number of aberrant forms such as tailless sperm, pyriform heads, narrow heads and sperm with tails closely coiled round the head, would justify an adverse prognosis. Although there are cases where fertility has been regained after a period of a year or longer, they must be few. An improvement should be expected in about three months. In any case, if a return to fertility is to be hoped for the cause of the initial disturbance must be removed without delay.

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GUY SUTTON MEMORIAL FUND

By the generosity of one of the clients of the late Guy Sutton, a Fund has been created to be called the "Guy Sutton Memorial Fund" in connection with the Victoria Veterinary Benevolent Fund.

Wishing to mark her appreciation of his ability as a veterinary surgeon, his sympathy with and understanding of his animal patients, and his constant kindness to herself, Mrs. Chester Beatty made enquiries of Mr. Peter Sutton, and having learned of his father's interest in the Victoria Veterinary Benevolent Fund she felt that it would be an appropriate way of perpetuating his memory if a Memorial Fund bearing his name were established for the purpose of helping the widows and orphans of veterinary surgeons. She, therefore, gave a cheque for £500 and her husband added another of the same amount. These have been credited to the Guy Sutton Memorial Fund and further sums have since been added as shown below, including moneys sent through Mrs. Chester Beatty and from friends of Guy Sutton who have sent cheques in lieu of flowers.

Mrs. Chester Beatty is herself writing to a number of her own friends asking for further contributions to the Memorial Fund, and it is thought that there may be many members of the profession who were among Guy Sutton's friends who would wish to associate themselves with the fund. All moneys received will be invested and the income used for the general charitable purposes of the Victoria Veterinary Benevolent Fund, of which Guy Sutton was a Life Member and to which it was his practice to direct any sums he received from his clients who wished to show their special appreciation of his services by giving him a cheque for something more than his fees.

Any contribution from members of the profession should be sent to the Secretary of the Victoria Veterinary Benevolent Fund at 9, Red Lion Square, London, W.C.1, and should be made out to the Guy Sutton Memorial Fund.

The Executive Committee of the Fund have already expressed their deep gratitude to Mrs. Chester Beatty for her munificence, and we are confident that the profession will wish to do everything in its power to make the Fund which she has started a worthy memorial to one whose sterling qualities, kindliness of manner and devoted service to his calling, have evoked such a generous expression of gratitude.

The following is the list of contributions to the Guy Sutton Memorial Fund:—

	£	s.	d.
Mrs. Chester Beatty	500	0	0
Mr. Chester Beatty	500	0	0
Per Mrs. Chester Beatty—			
Mr. J. A. Dunn	25	0	0
Roof Spotter	0	10	0
Mrs. Stringer	2	0	0
Miss I. O'Toole	1	0	0
Mrs. E. M. Visser	5	0	0
Per Mr. Peter Sutton—			
Mrs. D. M. Hope	2	2	0
Miss M. A. Sutton	2	0	0
Mr. Smith	1	0	0
Mrs. Parratt	2	0	0
Mr. and Mrs. Jenner	5	5	0
Mrs. E. G. Wheatley	0	10	6
Mr. A. Brown	0	10	0
	£1,046	17	6

THE VETERINARY RECORD

July 15th, 1944

VETERINARY DEVELOPMENTS IN INDIA

CONTAINING as it does about one-quarter of the cattle population of the whole world, and indebted as it is to diplomates of our R.C.V.S., ably supported by their colleagues, the graduates of the Indian schools, for the great advances which have been made in the control of the grave plagues which, since time immemorial, have beset this great national asset, any new developments in the veterinary services in India must be regarded as of prime Imperial concern.

Largely to redeem the tragedy which had befallen the Indian Civil Veterinary Department, formed in 1891, when it was decapitated, through the abolition of the post of Inspector-General, in 1912, and to remove the dire effects of the subsequent anomaly of placing what remained of it centrally under the administrative control of an official of the Agricultural Department, the Royal Commission on Agriculture in India (1928), suggested the creation of an Imperial Council of Agricultural Research, on which there should be three whole-time members at its Headquarters, namely, a Chairman with outstanding administrative ability ; " an eminent scientist who has specialised knowledge in some branch of crop production," and another who " should represent the interests of animal husbandry including animal nutrition and veterinary matters." This plan, in many ways an ideal one for the proper allocation of control under a federal or quasi-federal system of government, such as that pertaining in India, was evolved after careful study of the position in various countries, especially the United States of America and Australia, where agriculture and the livestock industry are paramount national assets, and as a comprehensive and elastic scheme is in some respects far ahead of anything hitherto evolved in this country.

In implementing the scheme the Government of India had the wisdom to look around for a suitable man in the person of a veterinarian to fill the post of Animal Husbandry Expert for which, needless to say, far more is required in the matter of veterinary experience than mere skill in laboratory research, in which matters the Government of India has at its disposal the Director of the Imperial Institute of Veterinary Research, Muktesar, one of the largest and best equipped veterinary research organisations in the Empire.

After considerable delay, Sir Arthur Olver, C.B., C.M.G., F.R.C.V.S., was appointed, in 1930, the first occupant of this key post in which, in a vast tract of Empire, the veterinary profession stood, as it were, on its trial. Besides professional competence, exceptional personal qualities were required to co-ordinate the veterinary services, which for some years had been run almost autonomously in the several provinces ; retrieve lost ground (especially on the animal breeding side); and maintain prestige at the headquarters of the central government. Those who wish to read a modest account of Sir Arthur Olver's custodianship and the manner in which he infused life into the central organisation which he brought into being are referred to the address which he gave at the Royal Society of Arts on " Animal Husbandry in India " (March 13th, 1942 : reprinted in *The Veterinary Record*, **54**, 298-9). After extensions of the term of his appointment, Sir Arthur retired in 1938, and was succeeded by Mr. Frank Ware, C.I.E., F.R.C.V.S., I.V.S., who had directed the Muktesar laboratory since 1929, after a career in the veterinary service of the Madras Presidency, where he had displayed outstanding gifts of administration and organisation.

Following the completion of Mr. Ware's term of service, the Government of India again, rather than appoint someone already in the cadre of its services on the grounds of mere seniority, had the wisdom to look around for someone most eminently fitted on personal grounds further to develop animal husbandry endeavours at headquarters. Towards the end of last year, the choice of the Government of India fell on Major Grahame Williamson, O.B.E., M.R.C.V.S., D.V.S.M., who proceeded to take up his new appointment in January last. Qualifying from London in 1913, Major Williamson joined the Royal Army Veterinary Corps and saw service during the 1914-18 war, mainly in Mesopotamia where he was in charge of the veterinary hospital at Baghdad. After that war, he served for a time at home, and then proceeded to India, where he held, among other appointments, that of veterinary officer in charge of the Remount Depot at Ahmednagar. Returning home again he was placed in charge of the Veterinary School at Aldershot and edited, with remarkable success, the *Journal of the Royal Army Veterinary Corps*. In 1938 he decided to resign army service, on curtailment of prospects within the R.A.V.C., and was appointed to the post of senior lecturer in the department of hygiene and dietetics at the Royal (Dick) Veterinary College, Edinburgh, in which capacity he collaborated with his chief, Professor Linton, in the production of the latter's recent edition of his textbook on Veterinary Nutrition and Dietetics. Within the sphere of his new appointment, Major Williamson will have ample opportunity for the display of gifts of leadership such as those who have known him long have well perceived, and of bringing into play his extensive and intimate knowledge of Eastern conditions. Dr. Minett, a former colleague in the R.A.V.C., one of our foremost and most efficient veterinary scientists with a fine record of achievement at home, is already at Muktesar to collaborate again with Major Williamson, and we may look forward to a happy and fruitful collaboration between these two veterinarians of high standing.

As to the importance now attached to the veterinary services in India, it is significant that Mr. Ware is being retained in India, having taken up, on invitation, a new appointment of Director of Animal Husbandry, United Provinces, his emoluments remaining the same as those of his former post at Headquarters, Government of India. The object, we understand, is to stimulate animal production within the province ; to meet internal shortages and to fulfil the requirements of the military and other services as far as possible. Mr. Ware has several promising schemes already under way, and if he is successful, as we feel sure he will be, there is every prospect that other provinces and states may follow suit. When we reflect that the area of Mr. Ware's present administration is about three times that of Britain, and that the livestock of this area is of certainly no less relative importance to its dense local human population, we are able to get some insight into the scale of the prospects looming ahead. Already in South Africa, under our colleague Dr. P. J. Toit, and in Kenya under Mr. Daubney, developments on this massive and comprehensive scale have been entrusted, with eminent success, to veterinarians, whose ambit in the civil economy has therefore expanded immeasurably outside the much narrower field of pathological research and the treatment and control of disease.

CLINICAL COMMUNICATION

Coccidiosis of Calves treated with Sulphaguanidine

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During recent years several writers[1, 2, 3] have reported on the coccidiostatic effect of sulphaguanidine in avian coccidiosis. In 1943 the writer had an opportunity of using this drug in a small outbreak of coccidiosis in calves.

Subjects.—Three Ayrshire heifer calves (83H, 47507 and 43509), born on 1.10.43, 3.10.43 and 4.10.43 respectively.

History.—The dams, all first calvers, had spent the summer on a low lying pasture. They were brought in and housed for calving in loose boxes. The calves remained with their dams for three days after birth, and were then removed to pens, where they were bucket-fed on whole milk for the first month. There was no history of coccidiosis on the farm, but the present herd had been established from 1941 onwards by purchasing in-calf or recently calved cows. The dams of the affected calves had all been born and reared on the farm.

On 1.11.43 calf 83H was seen to have diarrhoea and on the following day it was given a chalk and opium mixture. On 3.11.43 two other calves were scouring. One (47507) occupied the same pen as the initial case, and the other (43509) was in another pen.

Symptoms.—3.11.43.—All three calves took their morning milk; were fairly bright and stretched on rising. The faeces of 83H and 47507 resembled fresh egg-yolk and were streaked with blood. Defaecation was followed by straining. Their temperatures were 102·8° and 105° respectively. 43509 passed a similar unformed motion without blood and its temperature was 102·8°.

Diagnosis.—Coccidiosis, although no oöcysts were found in the faeces.

The affected animals were placed together in one pen. The straw bedding was replaced by peat-moss and hay removed from the rack.

4.11.43.—83H had a dejected appearance and there was intermittent straining with partial eversion of the rectum and the passage of yellow fluid faeces containing considerable amounts of blood. Temperature 103·4°. It took a little milk. 47507 was fairly bright and took some milk. There was "egg-yolk" diarrhoea, streaked with blood, and occasional straining. Temperature 104°. 43509: Bright, yellow diarrhoea, no straining. Temperature 102·9°.

83H and 47507 were each given 10 grammes of sulphaguanidine twice daily from 4.11.43 to 7.11.43 inclusive. The drug was suspended in water and given as a drench.

43509 was kept as a control. It continued to scour until 8.11.43, after which it gradually improved and made a complete recovery. Oöcysts were found in its faeces on 11.11.43.

From 4.11.43 onwards, the condition of 83H and 47507 gradually deteriorated. Appetite became poorer and was eventually lost, the appearance became more dejected and loss of flesh was progressive. Diarrhoea was always present. Straining became more frequent and forceful and was accompanied by the passage of blood and false membranes simulating bowel mucosa; later it was almost continuous and accompanied by groaning. The calves became recumbent with sunken eyes and cold extremities. The temperature varied from 103·4° to 98·7°. 83H died on 7.11.43. 47507 had a more protracted illness and died on 21.11.43, after showing respiratory symptoms. Faeces from both animals were examined daily for coccidia. Oöcysts were never found in those from 83H and were first found in the motions of 47507 on 10.11.43.

Post-mortem examinations: *83H.*—Appreciable numbers of coccidia were found in smears from the contents and scrapings of the colon and rectum. Sections made from the affected intestine showed coccidia invading the bowel wall. There was no evidence of any bacterial infection.

47507.—The cardiac lobe of the right lung was consolidated and adherent to the chest wall. On section it contained yellow purulent foci from which *C. pyogenes* was isolated in culture. The heart, liver and kidneys showed degenerative changes and the capsule of the right kidney did not strip readily. There was slight congestion of the abomasum. Petechiae and ecchymoses were present throughout the length of the small intestine and were most marked in the terminal portion of the ileum. The apex of the caecum showed marked congestion of its mucous membrane. There were haemorrhages into the wall of the colon; its walls were thickened and raised in many places in small haemorrhagic foci and the lumen of the bowel contained catarrhal exudate and blood. Numerous oöcysts were found in the colon and rectum.

Discussion.—The points of special interest in this outbreak were:—

(1) The source of infection. This was not discovered. The calves had never been out; their water supply was from a main. The hay and straw, both grown on the farm, had caused no trouble when used for other calves. The calves may have been infected from their dams during the first three days after birth. It is known that adult cattle may carry coccidia without themselves showing symptoms.

(2) The early age (one month) at which the calves were affected.

(3) The late appearance of oöcysts in the faeces. 83H died before oöcysts appeared, although they were found at *post-mortem* examination. They were not found in 47507 until seven days after it first showed symptoms, and in 43509 until eight days after symptoms began.

(4) The failure of sulphaguanidine to influence the course of the disease.

Acknowledgments.—The writer thanks his colleague in the Department of Veterinary Pathology, who carried out the *post-mortem* examination of calf 83H and examined the pneumonic lung of 47507, and also Messrs. Evans, Sons, Lescher & Webb, Runcorn, through Mr. R. S. Roberts, F.R.C.V.S., for free supply of sulphaguanidine.

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[3] Horton-Smith, C. (1942.) *Vet. Rec.* **54**. 259.

ABSTRACTS

[Calfhood Vaccination Against Brucellosis. Hubbard, E. D. (1944.) *J. Amer. vet. med. Ass.* **104**. 84-85.]

The author records data in connection with calfhood vaccination against Brucellosis which has been practised in Iowa since 1936. The percentage of calves positive to the agglutination test before vaccination varied from 2·58 per cent. in heavily infected herds to 0·43 per cent. in herds having few or no reactors. Between 79 per cent. and 100 per cent. of calves developed agglutinins after vaccination, the percentage varying with different batches of vaccine. Of 29 calves which did not react after vaccination, eight were positive 18 months later. Of 471 animals tested 18 months after vaccination, 11·7 per cent. were positive. Several retests of negative animals showed about 5 per cent. to be positive at each retest. Similar figures for another herd are given. The author discusses difficulties resulting from reactors in herds in which the policy of slaughtering adult reactors is pursued.

[The author does not discuss why vaccinated animals previously negative become reactors, nor are sufficient data given to enable one to form an opinion.]

A. W. G.

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[Studies of Deglutition in Sheep: Observations on the Response of the Oesophageal Groove Mechanism to Copper Sulphate in Sheep Poor in Condition from Inanition. Watson, R. H., and Jarrett, I. G. (1942.) *Austral. vet. J.* **18**. 227-235.]

Anthelmintics are frequently given to sheep in poor condition and it is thus important to know whether the reflex closure of the oesophageal groove evoked by copper sulphate is as efficient as in sheep in good bodily condition. There is evidence in the literature that this is not so, but the present authors considered it not entirely satisfactory. They have investigated the problem in six 3-year-old sheep, firstly when they were in fair condition and later when in poor condition from considerable restriction of the ration for 2½ to 3½ months.

Oesophageal groove closure was produced by injecting into the mouth through a tube fitted with a spray, 10 c.c. of an 0·4 m. solution of copper sulphate. A barium sulphate suspension in gum acacia was introduced into the oesophagus through a stomach tube passed through the right nostril. Movements of the oesophageal groove were studied on a fluorescent screen. The barium suspension was given firstly without administering copper sulphate and then at intervals after eliciting closure of the groove. The time relations of the various events were recorded on a kymograph tracing.

There was no indication that closure of the oesophageal groove occurred less readily when the animals were in poor condition. [It should be pointed out, however, that the six animals used were selected from a group of eleven sheep used in previous experiments on closure of the oesophageal groove and had been subjected to various procedures, including administration of various salt solutions. These six sheep had given the best response to the oesophageal reflex in the earlier work. The animals were, therefore, a specially selected group and the findings require to be confirmed before they can be accepted as generally applicable.]

E. G. W.

Questions and Answers

"Questions and Answers" will be published on alternate weeks.
The submission of questions for inclusion in this column will be welcomed. They can relate to any aspect of veterinary work and where publication of the name of the enquirer is not desired, a pseudonym should be supplied, the name and address also being given.
Answers to readers' queries represent exclusively the personal opinions of the writers, and criticism of the replies will be appreciated.
All communications should be addressed to the Editor.

Intra-spinal Anaesthesia in Bovine Dystocia

Q.—*Is it desirable to use intra-spinal anaesthesia in bovine dystocia?*—"*X.*"

A.—Only in selected cases. Such anaesthesia inhibits the expulsive efforts of the cow and should therefore only be used:—

(*a*) In prolonged operations to prevent exhaustion of patient and operator;

(*b*) Where an operation may entail risk of uterine rupture if carried out during labour;

(*c*) Where it is necessary to push foetus back into uterus to make room for correction of position, and this cannot be done whilst the dam is in labour.

. . . . .

Treatment of Meningitis Complicating Distemper

Q.—*The incidence of meningitis complicating distemper seems on the increase in my district, and I find it extremely intractable. Can any member suggest any treatment which is even moderately successful?*—*E. von Lustig, M.R.C.V.S.*

A.—If by meningitis is meant an active inflammation of the investing membranes of the brain and spinal cord, then this cannot be regarded as a common complication of canine distemper, although undoubtedly it does occasionally occur, often associated with an acute pneumonia: it is usually due to one of the secondary invaders. The condition occasionally responds to one of the chemotherapeutic agents, especially of the sulphonamide group, but is often so rapid in onset that death occurs before such drugs can exert their effect.

The term meningitis is, however, often applied to the nervous sequelae of the virus infection, and as the lesion here is a demyelination of nerve sheaths and is due to the action of the virus itself, prognosis is always grave owing to the fact that nervous tissue possesses extremely poor powers of regeneration. Treatment is purely symptomatic and although good results were at one time claimed for the sulphonamides in this connection, it is extremely doubtful whether this line of treatment is, in fact, better than any other. Good results have occasionally been claimed for the somewhat drastic method of keeping the dog in a state of light anaesthesia or deep narcosis by the use of nembutal or other drugs of the barbiturate groups. Administration of the vitamin B complex should always be adopted but can only be regarded as adjuvant and by no means specific.

The apparent increase of incidence of nervous complications in distemper cases in a given area over a certain period is due to the fact that certain strains of canine distemper virus are known to be more markedly neurotropic than others. In such outbreaks early administration of the specific anti-serum has excellent results, but usually in practice the case is not presented by the owner during the primary temperature rise and therefore even if the injection is made within three days of the appearance of symptoms, it is highly probable that the virus has been active in the animal for 10 to 14 days, by which time damage to the nervous system may already have resulted. On the whole, therefore, treatment of nervous complications of canine distemper may be said to be unsatisfactory.

. . . . .

Atony of the Crop

Q.—*I am frequently consulted about a condition met in individual fowls, of varying ages, affecting the crop. This organ does not appear to be impacted but is rather dilated and flabby, and full of foul smelling, almost liquid material. Can you tell me anything about this condition and whether treatment is a practical proposition?*—"*Doubtful.*"

A.—The condition is one of atony of the crop, known to poultrymen as "sour crop." The apparently increased incidence of this condition recently is probably due to the large quantities of bulky food which the bird has to consume to obtain a production ration, leading to a chronic over-distension of the crop. The condition is one which usually responds to treatment and in view of the exalted value of individual birds at present it is certainly worth while.

Treatment is as follows: Completely empty the crop by holding the bird head downwards and kneading the crop, evacuating the contents through the beak; give the bird an occasional breathing space or her death may lie at your door due to asphyxia! The bird must be isolated so that diet can be rigidly controlled. All food should be hard, grain if possible, as gleanings or screenings, otherwise dry biscuit meal. No green food or mash of any kind. Feed several times daily in small quantities, allowing small amounts of water frequently. The crop should be examined by the owner daily to ascertain that the food is passing on; massage may be of assistance. Strychnine is given as the following mixture: Tr. Nux. Vom. 20 m., Aq. ½ oz Dose, five to ten drops, twice daily according to weight. The crop usually regains normal size and tone within 14 days; the bird (if a laying hen) will come into lay again some two to four weeks later.

The sour milk treatment so frequently advocated has not, in the writer's experience, proved satisfactory.

IN PARLIAMENT

People's Dispensary for Sick Animals of the Poor Bill [*Lords*]

The above Bill was reported to the House of Commons on July 4th without Amendment [Preamble not proved] from the Committee on Group B of Private Bills, to lie upon the Table.

. . . . .

Milk and Dairies Bill

When the above Bill was considered on Report in the House of Commons on Thursday of last week, the Solicitor General (Sir D. Maxwell Fyfe) moved an amendment to Clause 1, which in its original form enables the Minister to refuse or cancel registration of a dairy farm if the regulations are not being complied with. He said that the amendment sought to leave to a tribunal the ascertainment of facts and to separate that duty from the application of policy which was essentially a matter for the Minister. The procedure now proposed would be that notice would be given to the person against whom there were grounds of complaint; that person would then have the right to object and the objection would be referred to the tribunal. The tribunal's decision would be by a majority and their determination would be reported to the Minister, who would communicate it to the objector. At the same time the objector would have the right to make what representations he liked to the Minister. If a tribunal decided nothing in the grounds of the complaint remained valid then the Minister would have nothing further to say. If, for example, the tribunal decided that the ventilation of a premises was satisfactory, but the water supply was not, then the Minister would have to decide whether in that case the water supply was a deterrent to clean milk production.

The tribunals would be formed from panels of the Milk Marketing Board and the National Farmers' Union and senior officers of the Minister's veterinary staff. Thus the tribunals would consist of experts and it was in accordance with well-tried procedure, not to be lightly rejected, that this form had been suggested.

After debate, in which Sir D. Maxwell Fyfe and Mr. R. S. Hudson, Minister of Agriculture, promised again to consider the composition of the tribunal, and especially the appointment of an independent Chairman, the amendment was agreed to.

The Report stage was concluded and the Bill read the third time and passed.

Questions

Bovine Tuberculosis (Experiment)

Mr. Viant asked the Secretary of State for the Home Department whether the experiment of injecting cultures of bovine tubercle bacilli into the blood stream of cattle was done under licence and certificate of his Department; and, if so, to whom the licence and certificate were granted.

Mr. H. Morrison: I understand that the experiment, to which my hon. Friend refers, relates to a trial as to a reputed cure for bovine tuberculosis which took place last year on a farm near Droitwich, in occupation by the Worcestershire War Agricultural Executive Committee. For this purpose a licence was granted and certificate allowed, under the Cruelty to Animals Act, 1876, to a veterinary surgeon, who administered tubercle infection to the cattle under experiment, prior to the reputed therapeutic treatment which was controlled by another licence and certificate under the Act.

U.N.R.R.A. (Scientific Advisers)

Captain Plugge asked the Secretary of State for Foreign Affairs what scientific advice and scientific staff and advisers are available to U.N.R.R.A., particularly with regard to health, nutrition, agriculture and other relevant matters; and whether he is satisfied that adequate arrangements have been made in this respect.

Mr. George Hall: The various divisions of the United Nations Relief and Rehabilitation Administration which deal with health, nutrition, agriculture and other relevant matters have been placed under directors and deputy directors appointed for their scientific or technical qualifications and experience. The recruitment and organisation of the staff both in London and Washington are still in progress. I regret it has not been possible in the time to obtain full particulars of all the persons appointed, but I quote a few instances which may be regarded as illustrative of the qualifications and experience of the scientific staff generally:—

Health Division, Washington: Director: Dr. W. A. Sawyer, formerly Director of the International Health Division of the Rockefeller Foundation.

Health Division, London: Director: Dr. A. Topping, formerly Deputy Medical Officer of Health to the L.C.C.; Deputy Director: Dr. Neville Goodman, formerly Deputy Senior Medical Officer, Ministry of Health.

Agriculture Division, London: Director: H. Calkins, formerly Regional Conservator of Soil in the Conservation Service of the U.S. Department of Agriculture; Deputy Director: S. Krolikowski, formerly Chief of the Agricultural Section of the Polish Ministry of Commerce.

In addition to its own staff U.N.R.R.A. can avail itself of the scientific advice of the Standing Technical Committees and Sub-committees of the U.N.R.R.A. Council. These Committees are composed of experts appointed by the member Governments. I am satisfied that the members appointed to serve on these technical Sub-committees on behalf of His Majesty's Government are highly qualified both by their scientific attainments and by practical experience, and I know that U.N.R.R.A. has spared no effort to secure the best talent available for its own staff.

Weekly Wisdom

This state of things is now rapidly declining and veterinary surgeons, instead of receiving as unexceptional the opinions and dogmas of their predecessors, only so far adopt them as consistent with the present state of knowledge on anatomy, physiology and pathology—sciences the more intimate acquaintance with which will prove our surest guides in any application of surgical or therapeutic remedies.—John Barlow, *Veterinarian*, 1844.

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

July 19th.—**N.V.M.A. Committee Meetings**, Royal Station Hotel, York: Finance and General Purposes, 10.30 a.m.; Appointments, 2.30 p.m.; Organising, 4 p.m.; Joint Veterinary Officers and Public Health and Parliamentary, 5.30 p.m.

July 19th.—Meeting of the Section of Comparative Medicine, Royal Society of Medicine, in association with the Institute for the Study of Animal Behaviour, 1, Wimpole Street, W.1, 2.15 for 2.30 p.m.

July 20th.—**Meeting of Council, N.V.M.A.**, Royal Station Hotel, York, 10.30 a.m.

July 20th.—Joint F.L.E.S. and N.F.U. Public Lecture ("Chemical Warfare": Major W. P. Blount, F.R.C.V.S., R.A.V.C.), Newcastle-upon-Tyne, 2.30 p.m.

July 21st.—Meeting of the Mid-West Division, N.V.M.A., at Bristol (Royal Hotel), 2.30 p.m.

July 25th.—Special Meeting of the Scottish Branch, N.V.M.A., at Glasgow (North British Station Hotel), 10.45 a.m.

July 28th.—Summer Meeting of the Lancashire Division, N.V.M.A., at Wilmslow, 12 noon.

July 28th.—Meeting of the Sussex Division, N.V.M.A., at Hayward's Heath (Hayworthe Hotel), 2.15 p.m.

July 28th.—Meeting of the Yorkshire Division, N.V.M.A., at Leeds, 3 p.m.

July 28th.—Meeting of the Royal Counties Division, N.V.M.A., at Compton, 11 a.m.

Aug. 17th.—Meeting of the South-Eastern Division, N.V.M.A., at Maidstone (Royal Star Hotel), 2.30 p.m.

Future Meetings

As indicated above and in our Forthcoming Meetings column, Major W. P. Blount is to deliver a lecture at Newcastle-upon-Tyne on July 20th, entitled "Chemical Warfare: the Procedure to be adopted after Gas Attacks involving Farm Animals." Major Blount, who is at present located at the Animal Farm near Salisbury, is a most interesting lecturer. He has made a thorough study of his subject and it is important that our knowledge regarding it should not be allowed to lapse. To be forewarned is to be forearmed, and it is hoped that there will be a good attendance of veterinarians at this lecture.

"The Veterinary Record"

The Editorial Committee apologises to readers and advertisers for the delay which has taken place in the delivery of this and recent issues of *The Veterinary Record*, due to circumstances beyond the control of the Committee.

* * * * *

PERSONAL

Birth.—White.—On June 19th, 1944, to Letty (*née* Comins), wife of Edward T. A. White, M.R.C.V.S., Walton House, Tewkesbury, Glos.—a son.

* * * * *

Forthcoming Marriage.—Fitzpatrick—Holmes.—The engagement is announced between Mr. R. J. Fitzpatrick, M.R.C.V.S., son of Mr. and Mrs. J. A. Fitzpatrick, of Sidcup, Kent, and Miss Ruth Holmes, only daughter of Mr. and Mrs. Hermann Holmes, of Leicester.

* * * * *

Marriage.—Hignett—Mortimer.—The wedding took place on July 1st, at St. Nicholas, King's Lynn, Norfolk, between Joy Pauline Hignett, younger daughter of Mr. and Mrs. W. D. Hignett, of King's Lynn, Norfolk, and Lieut. Donald Thomas Mortimer, R.A.V.C., younger son of Mr. and Mrs. H. Mortimer, of Beccles, Suffolk.

* * * * *

SCHEME FOR THE CONTROL OF DISEASES OF DAIRY CATTLE

Statement showing the Number of Undertakings notified to the Ministry of Agriculture during the Month ended June 30th, 1944

County	Undertakings Notified		Total Undertakings		
	During Month	Previously	Number	Number of Cattle	
				Cows	Heifers
England					
Bedford	—	40	40	926	508
Berks	—	104	104	3,569	2,162
Bucks	4	91	95	3,331	1,799
Cambridge	—	15	15	353	208
Chester	3	401	404	13,284	4,560
Cornwall	—	8	8	158	105
Cumberland	—	65	65	1,618	1,411
Derby	4	316	320	9,247	5,118
Devon	17	245	262	4,012	2,415
Dorset	—	70	70	2,130	1,163
Durham	2	282	284	6,276	2,188
Essex	1	256	257	9,044	5,206
Gloucester	1	107	108	3,156	1,803
Hampshire	6	397	403	11,476	7,642
Hereford	—	25	25	359	231
Hertford	—	77	77	2,313	1,434
Hunts	—	14	14	475	315
Isle of Ely	—	3	3	83	75
Isle of Wight	—	15	15	267	128
Kent	5	148	153	3,892	2,281
Lancs	1	207	208	5,999	1,884
Leics	2	95	97	2,506	1,728
Lincs (Holland)	—	3	3	25	11
Lincs (Kesteven)	1	23	24	319	156
Lincs (Lindsey)	—	104	104	1,978	1,103
Middlesex	—	16	16	641	307
Norfolk	3	187	190	5,655	3,855
Northants	—	81	81	2,207	1,566
Northumberland	3	61	64	2,257	1,055
Notts	—	161	161	3,711	2,125
Oxford	1	41	42	1,261	1,130
Rutland	—	8	8	138	92
Salop	3	275	278	8,412	4,026
Soke of Peterborough	—	1	1	37	31
Somerset	1	238	239	6,073	2,824
Staffs	2	215	217	6,307	3,361
Suffolk, E.	1	95	96	2,242	623
Suffolk, W.	—	51	51	1,054	1,631
Surrey	—	115	115	3,235	1,470
Sussex, E.	4	175	179	4,615	2,612
Sussex, W.	1	141	142	3,832	2,195
Warwick	—	132	132	3,291	1,889
Westmorland	—	15	15	459	546
Wilts	1	94	95	3,885	1,795
Worcester	2	160	162	3,409	1,534
Yorks, E.R.	1	100	101	1,559	879
Yorks, N.R.	1	120	121	2,503	1,486
Yorks, W.R.	1	268	269	6,587	2,553
Wales					
Anglesey	—	44	44	765	581
Brecon	—	9	9	199	108
Caernarvon	2	110	112	1,791	968
Cardigan	—	28	28	491	352
Carmarthen	—	236	236	4,205	2,170
Denbigh	—	62	62	1,318	689
Flint	1	116	117	2,581	1,112
Glamorgan	—	98	98	1,614	615
Merioneth	—	10	10	125	68
Monmouth	—	53	53	1,257	738
Montgomery	—	17	17	326	243
Pembroke	1	84	85	1,601	1,128
Radnor	—	—	—	—	—
Totals	76	6,728	6,804	176,430	93,971

Notes.—(1) Operative periods of undertakings: 1 year, 1,382; 2 years, 592; 3 years, 4,830. (2) Undertakings renewed for a further period: 1 year, 541; 2 years, 120; 3 years, 118. (3) Undertakings not renewed at end of operative period, 330. (4) The figures showing the number of undertakings notified during the month relate to entirely fresh undertakings and do not include undertakings renewed for a further period.

Undertakings which have been cancelled or not renewed are not included in the figures for previous notifications.

County	Undertakings Notified		Total Undertakings		
	During Month	Previously	Number	Number of Cattle	
				Cows	Heifers
SCOTLAND					
Aberdeen	—	27	27	1,168	402
Angus	—	21	21	812	395
Argyll	—	6	6	113	115
Ayr	—	39	39	1,257	955
Banff	—	4	4	121	42
Berwick	—	2	2	53	22
Bute	—	—	—	—	—
Caithness	—	—	—	—	—
Clackmannan ..	—	6	6	180	148
Dumfries	—	14	14	744	613
Dumbarton	—	3	3	105	86
East Lothian ..	—	3	3	145	88
Fife	—	35	35	1,352	585
Inverness	—	10	10	349	192
Kincardine	—	5	5	231	126
Kinross	—	3	3	59	32
Kirkcudbright ..	—	16	16	939	736
Lanark	—	20	20	683	486
Midlothian	—	1	1	44	69
Moray	—	—	—	—	—
Nairn	—	1	1	14	—
Orkney	—	—	—	—	—
Peebles	—	5	5	101	45
Perth	—	33	33	752	428
Renfrew	—	9	9	384	297
Ross-shire	—	3	3	89	65
Roxburgh	—	—	—	—	—
Selkirk	—	—	—	—	—
Stirling	—	29	29	848	648
Sutherland	1	4	5	121	75
West Lothian ..	—	1	1	23	18
Wigtown	—	26	26	1,714	885
Zetland	—	—	—	—	—
TOTALS ..	1	326	327	12,401	7,553

Notes.—(1) Duration of undertakings: 1 year, 50; 2 years, 37; 3 years, 240. (2) Undertakings renewed for a further period (included in column 2 of statement): 1 year, 31; 2 years, 4; 3 years, 4. (3) Undertakings expired and not renewed (not included in column 2 of statement): 47. (4) The figures showing the number of undertakings notified during the month relate to entirely fresh undertakings.

MINISTRY OF AGRICULTURE NEWS SERVICE

Good Hay—Good Feeding.—Quality in hay is largely within the control of the farmer, depending greatly as it does on the stage when the hay is cut. Deciding a cutting date is no easy matter. There is, however, one guide that can be used. Since it is impossible to cut the whole of the hay area at the same time, make a start about one week before the grass is ready. The earlier the cut, the better the hay. Cutting before all is ready, ensures the maximum amount of high-quality material, with more protein, more minerals, less fibre and higher digestibility. Hay from young leys is sometimes said to be coarse. If a sample is open to such criticism, it is the farmer who is at fault for cutting too late. Grass from young leys is ready for use much earlier than that from an old meadow.

Hay should be turned as soon as possible after cutting. In mechanised harvesting there is a tendency to cut large areas at a time and to leave the crop on the ground until it is dry enough to be stacked. Hay treated in this way will lose much of its food value and may be no better than oat straw. Even under fully mechanised conditions drying can be speeded up and the hay secured quicker by tedding immediately after cutting and again in 24 hours, or by tedding, putting up in windrows overnight and re-tedding next morning. After such early tedding, drying occurs more rapidly and uniformly. By windrowing overnight less moisture is re-absorbed when the dew "falls."

Given sufficient good quality hay, cows yielding up to 2 gallons of milk need little or no concentrated food. Better hay and more of it per acre will play a great part in the call for increased milk production that is necessary before milk can go off the ration.

* * * * *

A Colony's Pigs.—Kenya is on the equator but in the equable climate of the colony's highlands, ranging from five to ten thousand feet, subtropical crops can be grown and much of the country is well suited to mixed farming, including dairying and pigs. The domestic pig was imported by settlers in Kenya and before the war breeders continued to get new blood from Britain.

On well managed farms, pigs do extremely well and baconers are turned out weighing 200 lb. live weight at the age of six months. Kenya's staple crops are maize, wheat, barley and potatoes, and these foods, together with skim milk from the dairy industry, provide a well-balanced feeding ration. As in Britain, farmers favour the use of the Large White boar for producing pigs of good bacon type.

Africa is often a hard taskmaster to the farmer but pigs in Kenya are remarkably free from disease and the climate allows breeding all the year round. Since war began the largest bacon factory, previously run by private enterprise, has been acquired with Government aid by the pig and bacon industries on a co-operative basis.

* * * * *

Standby Crops Keep Up Milk Yields.—After the spring flush ends and before the autumn flush begins, that is from mid-July to late September, is a period when pasture production falls off. A drought makes matters worse and milk yields may go down heavily. Farmers with established lucerne are fortunate, for this crop can be cut green several times in the season and is not affected by drought. With its high protein value and succulence it ekes out dry and scanty grazing.

Mixtures of oats with peas and vetches can be cut green for ensiling or alternatively grown to maturity, harvested and threshed. Marrow-stem kale is good for feeding on pastures as early as August, even if only half-grown. Those who think this wasteful must remember that kale is lost through frost in winter and it may pay better to take it earlier than lose it later. Every headland and space corner can be sown with marrow-stem and it is a crop that transplants well in the driest seasons.

When the flush of spring grass is more than the stock can consume, mow it and make silage. The man with a supply of good grass silage can maintain his milk yields during any summer drought.

* * * * *

Called by the Welsh Agricultural Organisation Society, a Dolgelly conference urged that a faculty of veterinary science should be set up at one of the Welsh university colleges at the earliest possible date.

* * * * *

On Thursday of last week an outbreak of foot-and-mouth disease was confirmed among pigs at Haydon Hill, Cheltenham, Gloucestershire.

CORRESPONDENCE

The Editor will be glad to receive items of professional interest for inclusion in these columns.

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

THE TUBERCULIN TEST

Sir,—One learns that changes in the application of the tuberculin test are contemplated. It is my hope that the test will consist only of a single injection with the caudal fold as the site.

There can be little virtue in retaining the comparative test; it has caused considerable confusion but has done little to assist in the eradication of tuberculosis.

Finally, is it not more than time veterinary surgeons insisted that the invidious and absurd position they have tolerated so long in connection with the interpretation of the tests be changed? The responsibility for deciding what is, and what is not, a reactor should rest with the veterinary surgeon carrying out the test and no one else.

Yours faithfully,

Berkeley Lodge, Blandford, Dorset. F. Beckett.

July 1st, 1944.

* * * * *

MALADMINISTRATION OF DRUGS

Sir,—Your leading article of June 24th very rightly calls attention to the dangers inherent in the maladministration of drugs of the sulphonamide group either by insufficient dosage or by their employment in conditions where the causal organism is not one which is inhibited by their action. Undoubtedly there has been an unfortunate tendency both in the medical and veterinary fields to resort to these agents without sufficient discrimination, and it is important that the possible dangers to human and animal health respectively should be emphasised.

To take one particular aspect of veterinary practice, the difficulty of making a rapid differential diagnosis between some of the forms of bovine mastitis must, perhaps inevitably, lead to some misusage of sulphanilamide, but it is essential that every effort should be made to limit this as far as possible. If this is to be done it is of primary importance that the issue of sulphanilamide and the other sulphonamides should be so restricted that their administration is carried out only under veterinary supervision. This cannot be done whilst it is possible for farmers to obtain the drug through chemists merely by the formality of a signature.

The average stockowner is incapable of deciding which conditions are likely to respond to sulphanilamide treatment, but the spectacular results obtained in certain cases seem to him sufficient justification for its employment in all forms of mastitis and in numerous other maladies. One has heard, for instance, of infertility being "treated" by daily administration of sulphanilamide over a period of weeks. That such misuse is likely to be of actual danger to animal health you indicate in your article and, moreover, it results in considerable wastage of a very valuable drug. At the present time the demand for the sulphonamides for Forces and civilian medical practice is such that some manufacturers are unable to fulfil orders from veterinary surgeons. That this should be so when there is both harm and wastage resulting from indiscriminate use by farmers, who are still able to obtain supplies, is surely an anomalous position which the Association should take all possible action to correct.

Yours faithfully,

Chapel Court, GEORGE A. WILLIS.
15, Vauxhall Road, Liverpool, 3.
June 27th, 1944.

* * * * *

VETERINARY EDUCATION

Sir,—Recently a flourishing division of the N.V.M.A. arranged a discussion on Veterinary Education and the Loveday Report. A well-known speaker with experience of teaching within and without a university opened the discussion. The attendance was very much below the average for that division, those that did come being almost all teachers and research workers.

One can only infer that the rank and file of the profession is not interested in veterinary education. As we are, at the moment, a very democratic institution, the Council of the R.C.V.S. is elected by and responsible to this rank and file. The Council conducts our examinations, appoints our examiners, and sets the standards by which we are judged fit to enter the profession. It is the proposed alteration in this system that is now the subject of urgent controversy.

I consider the apparent apathy of those who at present, by their franchise, control veterinary education is deplorable, and may be seized on by those outside our profession as evidence of our lack of fitness for this function.

It is to be hoped that other divisions will correct this impression by giving more serious and active consideration to the matter.

Yours faithfully,

495, Footscray Road, New Eltham, CONNIE M. FORD.
London, S.E.9. *July 5th*, 1944.

* * * * *

Sir,—As one of the "uninformed likely to be alarmed" by the abandonment of the one-portal system, I should be interested to hear Miss Freak's comments on the attached cutting from the current issue of the *Evening News*.

Yours faithfully,

15, Belsize Square, Hampstead, N.W.3. F. FRANCIS.
July 4th, 1944.

Our correspondent's enclosure is as follows:—

THOSE MEDICAL DEGREES

"The letters M.S. after a surgeon's name indicate, I believe, the highest possible altitude of distinction in his profession.

"You cannot say as much for some of the letters that doctors display. It is well known even to laymen like myself that there are very great differences in the status conferred by medical qualifications. There is one British Islands university (I will not particularise it) whose medical degrees carry hardly any weight.

"The trouble is that there are a great many places in this country where doctors can get degrees and there is no uniformity about standards."

* * * * *

THE N.V.M.A. AND ITS STATE SERVICE MEMBERS

Sir,—For a long time I have searched the columns of the *Record* and its supplements to find the real policy of the N.V.M.A. in regard to those of its members who form the State Veterinary Service. The constant omission of all reference to them, even when major developments are under review, can only mean that the Council of the Association gives little or no consideration to the interests and welfare of the Ministry's staff. It is obvious that the "National" looks at every new project solely from the practitioners' point of view, and in any negotiations with outside bodies it simply acts the part of a practitioners' protection society.

The most recent example of this attitude is provided by the calfhood vaccination scheme. Among the many thousands of words printed on this subject there has been nothing to show that the N.V.M.A. gave one moment's thought to its possible effects on the lives and prospects of the whole-time men. Its representatives were vociferous in complaining that practitioners would have to do extra work for too little money, but they completely ignored the whole-time staff, who will also have to do extra work, but at their existing salaries. They haggled for a year over 6d. and put forward every conceivable objection to the scheme. What a chance for the Association to have said, "Right! Here is one of the best developments of recent years, which will do untold good to the country's livestock. Let us all get at it *now* and talk of fees later." Instead of that a whole year has been wasted in wrangling and a complete generation of calves has been missed.

A past president of the Association has recently (Supplement, April 29th, 1944, p. 49) summed up the position as follows:—

". . . the President and his colleagues had created an excellent atmosphere, not only in respect of the negotiations over that scheme, but in regard to the complete reorganisation of the veterinary services, to the great advantage of the practitioner. Everybody agreed with the wider implications—the reorganisation of the State panels, the inclusion of assisting veterinary surgeons and the definite intention of the Ministry to increase State work and give more and more to the practitioner had been stated. It seemed to him that practitioners were going to gain much from that reorganisation."

Coming as they do from the lips of the man who led the N.V.M.A.'s deputations on this very question, these words clearly show how heavily biased is the Association's policy in favour of the practitioner and against the whole-time man.

If any further indication of the N.V.M.A.'s attitude is needed, it is provided by its acceptance without demur, of "Some redistribution of the whole-time staff—difficult as it is to encompass in war-time." The "National" was apparently satisfied that some of its whole-time members and their families should, in these most trying days, be uprooted in order that the amount of work allotted to its practitioner members might be evened out. The Ministry's staff is necessarily subject to a certain amount of restriction in its liberty of action and expression, and the Council of the N.V.M.A. is content to take advantage of this disability to carry through a policy of discrimination in favour of the more numerous practitioners. There must be well over 300 members of the "National" who are in the State service, and it is high time they obtained something more than the wrong end of the stick—and the *Record*—for their subscriptions.

Yours faithfully,

"Wayside," Twyford, E. G. MORRIS.
Nr. Winchester. *June*, 1944.

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"QUESTIONS AND ANSWERS"

Sir,—"Questions and Answers," the new feature of *The Veterinary Record*, is a very welcome innovation. I believe it will prove to be of great assistance to many members, especially, perhaps, those engaged in general practice. The very necessary restrictions on travel and the rationing of petrol have, since the war, made it much more difficult to get to any of the meetings and to exchange notes with fellow members. This was always most helpful and refreshing. This fortnightly wisdom will do much to supply that much felt want. May it flourish.

Yours faithfully,

Wood Burcote, Towcester. W. E. BLACKWELL.
July 8th, 1944.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange*	Sheep Scab	Swine Fever
June 1st to 15th, 1944 ...	5	1	—	—	34
Corresponding period in—					
1943 ...	10	—	1	1	20
1942 ...	13	6	—	1	29
1941 ...	21	2	—	2	37
Total Jan. 1st to June 15, 1944	107	22	6	59	359
Corresponding period in—					
1943 ...	153	10	6	99	234
1942 ...	157	22	26	116	215
1941 ...	265	255	8	131	761

NOTE.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.